

### Abstract

5 A continuous process for isolating butenes from a  $C_4$  fraction comprising butanes, butenes and other  $C_3$ - $C_5$ -hydrocarbons by extractive distillation using a selective solvent (LM), comprising

a first process stage I in a scrubbing zone (E) and

10 a second process stage II in a degassing zone (A),

wherein the liquid or a substream of the liquid is taken off from the degassing zone (A) at a theoretical plate located one or more theoretical plates below the feed point for the bottom stream (LM/ $C_4H_8$ ) from the scrubbing zone (E), heated and/or vaporized by indirect heat exchange with the hot bottom stream (LM) from the  
15 degassing zone (A) and returned to the degassing zone (A) at the same theoretical plate or above this, with the theoretical plate from which the liquid or substream of liquid is taken off being selected so that the total energy requirement in the process stages I and II is minimized,

20 is proposed.

(Figure 1)